Leica IMS500
Manual

Leica
MICROSYSTEMS

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Safety regulations

Safety concept

This operating manual describes the special functions of the individual modules of the Leica IMS500 Interactive Microscopy System and contains important instructions for their operational safety, maintenance, and accessories.
You can combine individual system articles with articles from external suppliers. Please read the user manual and the safety requirements of the supplier.
Before installing, operating or using the system, read the user manual. In particular, please observe all safety instructions.
To maintain the unit in its original condition and to ensure safe operation, the user must follow the instructions and warnings contained in the user manual.
Additional information about other instruments from Leica Microsystems Ltd. can be found online at

www.leica-microsystems.com.

The "Safety concept" booklet contains additional safety information regarding the service work, requirements and the handling of microscope, accessories and electrical accessories as well as general safety instructions.

Symbols used in this operating manual

Warning of a danger

This symbol indicates especially important information that must be read and complied with.

Failure to comply can cause the following:

- Hazards to personnel
- Functional disturbances or damaged instruments

Warning of hazardous electrical voltage

This symbol indicates especially important information that is mandatory to read and observe.

Failure to comply can cause the following:

- Hazards to personnel
- Functional disturbances or damaged instruments

Danger due to hot surface.

This symbol warns against touching accessible hot surfaces, e.g. those of light bulbs.

Important information

This symbol indicates additional information or explanations that intend to provide clarity.

Explanatory notes

- This symbol within the text points to additional information and explanations.

Important Notes

Description

The Leica IMS500 meets today's state of the art of technology. Nevertheless, hazards may still arise during operation. The potential risks are described below.

Before installing, operating or using the instruments, it is required to read this user manual. In particular, please observe all safety instructions.

Contact address

Leica Microsystems (Switzerland) Ltd.
Industry Division
Max Schmidheiny Strasse 201
CH-9435 Heerbrugg (Switzerland)

User Manual

This user manual includes important instructions related to operating safety, maintenance and accessories.

Your Leica IMS500 comes with a printed manual. Keep it in a safe place, and readily accessible to the user. User manuals and updates are also available for you to download and print from our web site at www.leica-microsystems.com

Produced for Leica Microsystems from

EBS
Euchner Büro- und Schulsysteme GmbH
Ernst-Leitz-Strasse 3
DE-63150 Heusenstamm

Accessories from third-party suppliers

You can combine individual system articles with articles from external suppliers. Please read the user manual and the safety requirements of the supplier.

Original condition

To maintain the unit in its original condition and to ensure safe operation, the user must follow the instructions and warnings contained in these user manuals.

Legal requirements

Adhere to general and local regulations relating to accident prevention and environmental protection.

EC Declaration of Conformity

Electrically operated accessories are constructed based on the state of the art of technology and are provided with an EC Declaration of Conformity.

Instructions on use

Intended use

The Leica IMS500 Interactive Microscopy System is for allowing the Teacher to select which microscope images will be shared with himself, other students, or a projector.

Position the Leica IMS500 so that it can be disconnected from the power supply at any time. The power cord must remain accessible at all times, because the power supply is foreseen as mains disconnecting device.

Place of use

Only use the system in closed, dust free rooms and between +10 °C and +40 °C. Protect the devices from oil, chemicals and extreme humidity. Never use electrical devices outdoors. Install electrical devices at least 10 cm from the wall and away from flammable substances. Avoid large temperature fluctuations, direct sunlight and vibrations.

Non-intended use

⚠ Using the system in any way contrary to the specifications in the user manual can lead to bodily harm and damage to objects. Doing so can impair the functions of the protective measures provided.

Only use one of the following power cords*. Don´t unscrew any mechanical components unless expressly instructed to do so in the instructions.

The devices and accessories described in this operating manual have been tested for safety and potential hazards.

The responsible Leica affiliate must be consulted whenever the instrument is altered, modified or used in conjunction with non-Leica components that are outside of the content of this manual.

Unauthorized alterations to the device or noncompliant use shall void all rights to any warranty claims.

Transport

If at all possible, use the original packaging for shipping or transporting individual modules.

In order to prevent damage from vibrations, disassemble all moving parts that (according to the user manual) can be assembled and disassembled by the customer and pack them separately.

Disposal

Disposal must comply with locally applicable laws and regulations.

Integration in third-party products

When installing Leica products into third-party products, the manufacturer of the complete system or its dealer is responsible for following all applicable safety instructions, laws and guidelines.

*** Power Cords**

10280636	Power cable, 2.5 m, Switzerland
10445661	Power cable, 2 m, USA
10445662	Power cable, 2 m, EURO
10445663	Power cable, 2m-2.5 m,BS
10447346	Power cable, 2 m, Japan
10450012	Power cable, 2 m, Argentina type K
10450013	Power cable, 2m, Australia type F
10450014	Power cable, 2m, China type L
10450015	Power cable, 2m, Israel type I
10450016	Power cable, 2m, Italy type E
10450017	Power cable, 2 m, South Africa type D

Information for the person responsible for the instrument

Information for the person responsible for the instrument

- Ensure that the Leica IMS500 system is used only by qualified personnel.
- Ensure that this user manual is always available.
- Carry out regular inspections to make certain that the authorized users are adhering to safety requirements.
- When instructing new users, do so thoroughly and explain the meanings of the warning signs and messages.
- Assign individual responsibilities for starting, operating and servicing the instrument and monitor the observance of these responsibilities.
- Do not use the Leica IMS500 system unless it is in perfect condition.
- Inform your Leica representative or Leica Microsystems (Schweiz) AG, Industry Division, 9435 Heerbrugg, Switzerland, immediately of any product defect that could potentially cause injury or harm.
- If you use accessories made by third-party manufacturers with the Leica IMS500 system, be sure that each such manufacturer confirms that the combination is safe to use and observe the product's user manual.
- Modifications and maintenance of the Leica IMS500 system may only be performed by professionals expressly authorized by Leica.
- Only original Leica replacement parts may be used in servicing the product.
- After service work or technical modifications, the unit must be reconfigured with observance to our technical requirements.
- If the unit is modified or serviced by unauthorized persons, is improperly maintained (as long as maintenance was not carried out by us), or is handled improperly, Leica will not accept any liability.
- The electric installation in the building must conform to the national standard, e.g. current-operated ground leakage protection (fault-current protection) is suggested.

Care instructions

General instructions

- Protect the Leica IMS500 against damp, vapors, acids, alkalis, and corrosive substances. Do not store chemicals in the vicinity. Protect the Leica IMS500 from oil and grease.
- It is advisable to enter a service agreement with Leica Service.

Cleaning coated parts and plastic parts

- Dust and dirt particles should be removed with a soft brush or lint-free cotton cloth.
- Remove coarse debris with a moistened disposable cloth.
- Clinging dirt can be removed using petroleum ether or alcohol.
- Acetone, xylene or nitro-containing thinners must NOT be used.
- Never use chemicals to clean colored surfaces or accessories with rubberized parts. This could damage the surfaces, and specimens could be contaminated by abraded particles.

Accessories, maintenance and repair

Accessories

Only the following accessories may be used with the Leica IMS500 system:

- The Leica accessories described in this user manual.
- Other accessories, provided that these have been expressly approved by Leica as being technically safe in this context.

Maintenance

- The Leica IMS500 is basically maintenance-free. To ensure that it always operates safely and reliably, we recommend that you take the precaution of contacting the responsible service organization.

You can arrange for periodic inspections or, if appropriate, conclude a maintenance contract with them.

- It is advisable to enter a service agreement with Leica Service.
- For maintenance and repair, only OEM spare parts may be used.

Repairs and service work

- Only original Leica Microsystems spare parts may be used.
- Before opening the instruments, switch off the power and unplug the power cable.
- Avoid contact with powered electrical circuits, which can lead to injury.

Service address

In case of problems, please contact us as follows:

Leica Microsystems (Switzerland) Ltd.
Industry Division
Max Schmidheiny Strasse 201
CH-9435 Heerbrugg (Switzerland)
Phone +41 71 726 33 28

Electrical data and ambient conditions

Electrical data

See specifications page

Environment

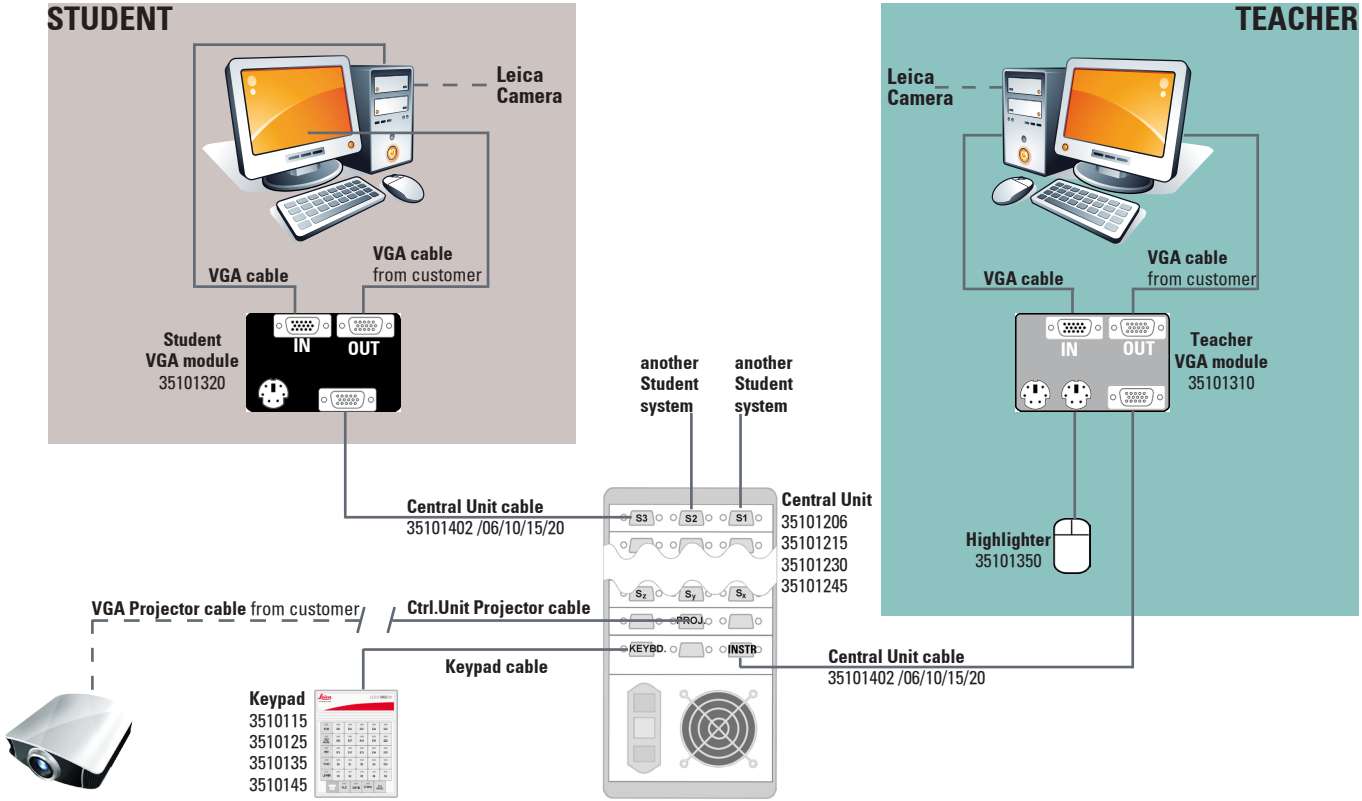
Temperature for use	+10 °C … +40 °C
Storage temperature	-20 °C … +52 °C +50 °F … +104 °F
Manipulation shock	25 mm on 50 mm hard wood
Transport shock (unpacked)	80 g / 6 ms
Transport shock (packed)	800 mm free fall
Transport vibrations (unpacked	5–200 Hz / 1.5 g
Atmospheric pressure "in use" and for storage:	500–1060 mBar
Humidity "in use" and for storage:	20–90%
Installation Category II (Overvoltage Category)	
Pollution degree 2	

Unpacking

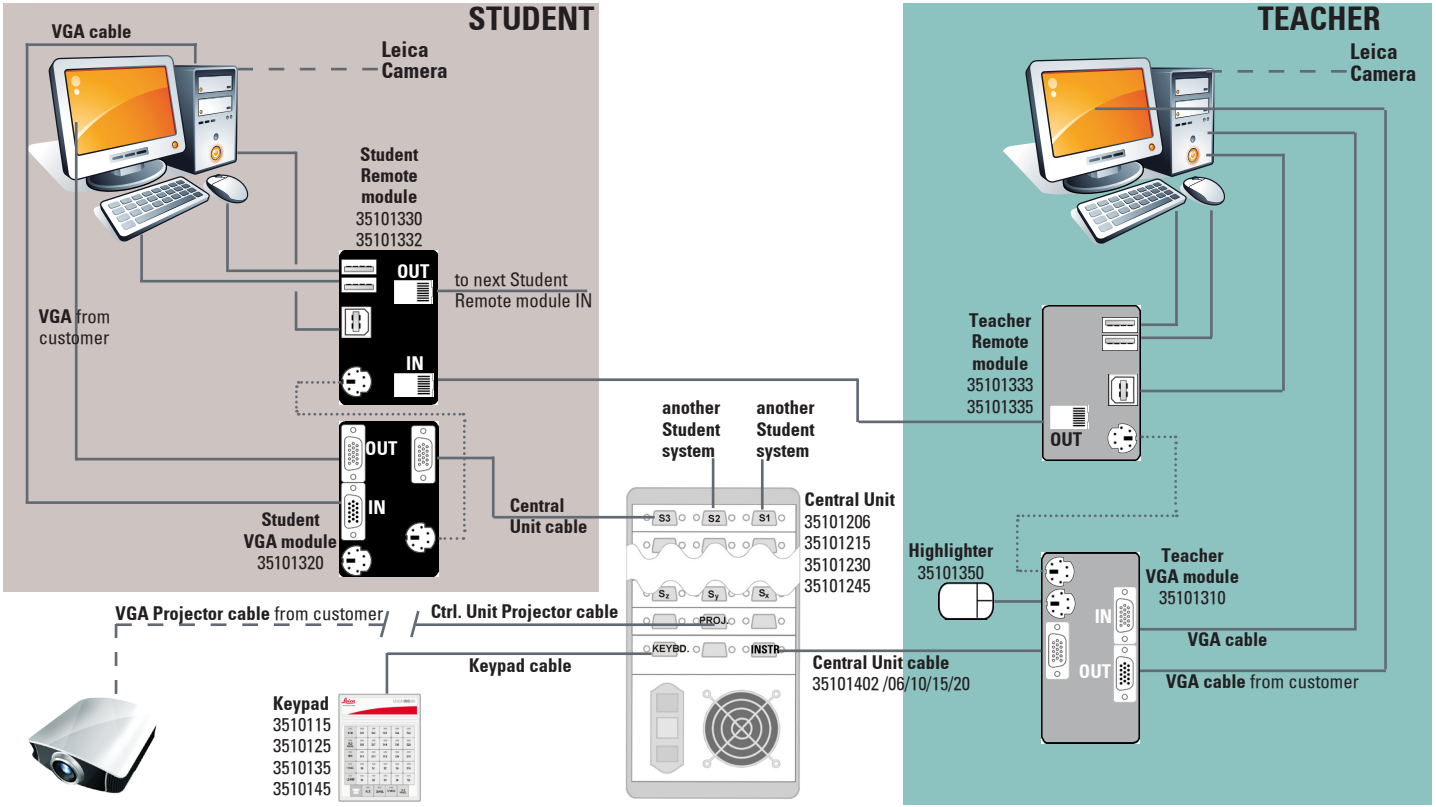
- Carefully remove the system and any components from the packing carton.
- Check the components against the planned configuration.
- Optional items such as camera adapters, cameras, and carrying cases are not shipped as part of the standard equipment. These items are delivered in separate packages.
- Please do not discard any of the packing materials. They should be used for safely storing and transporting the instrument should the need arise.

Installation!

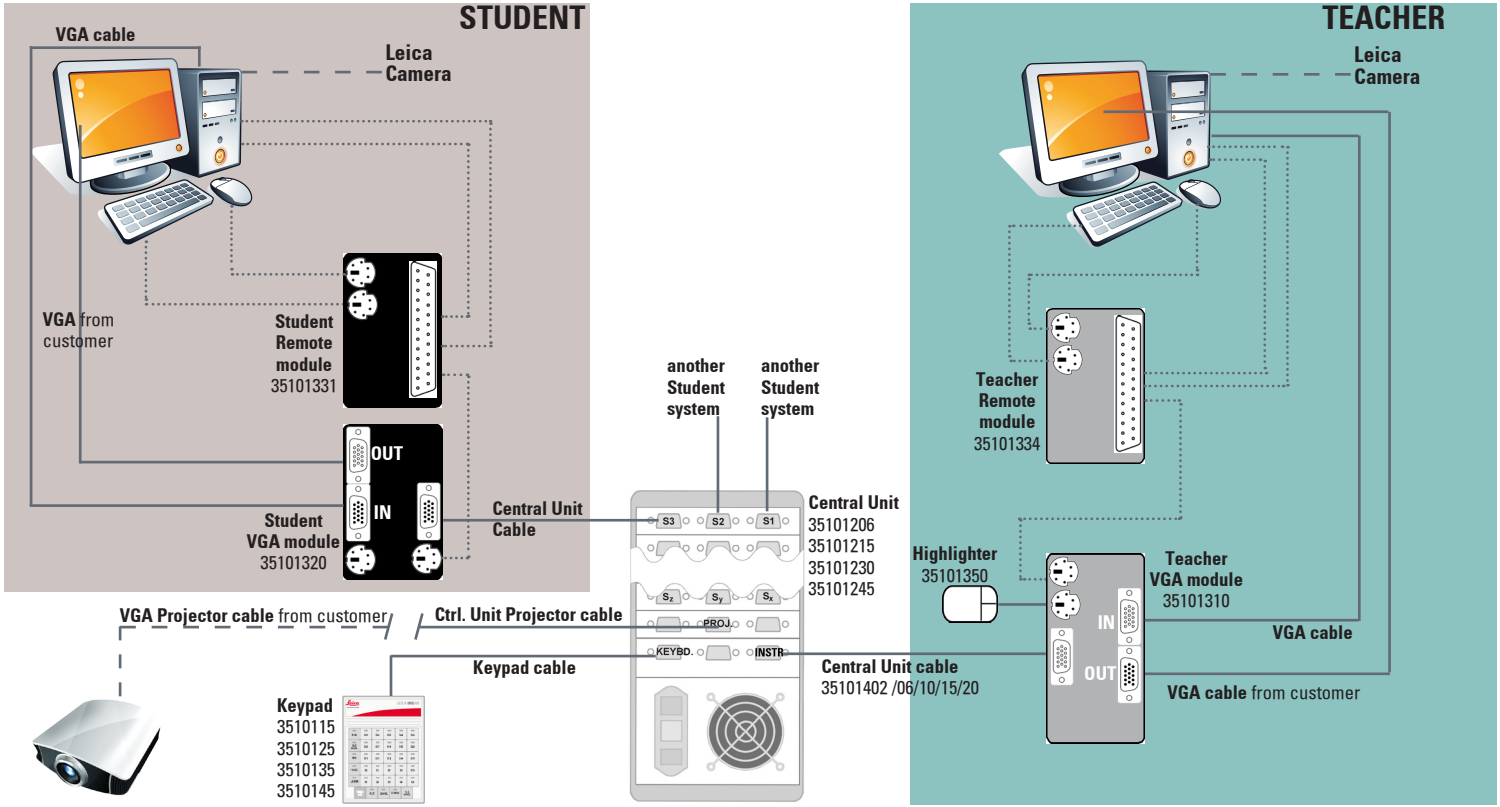
Installation Basic Systems with Computers



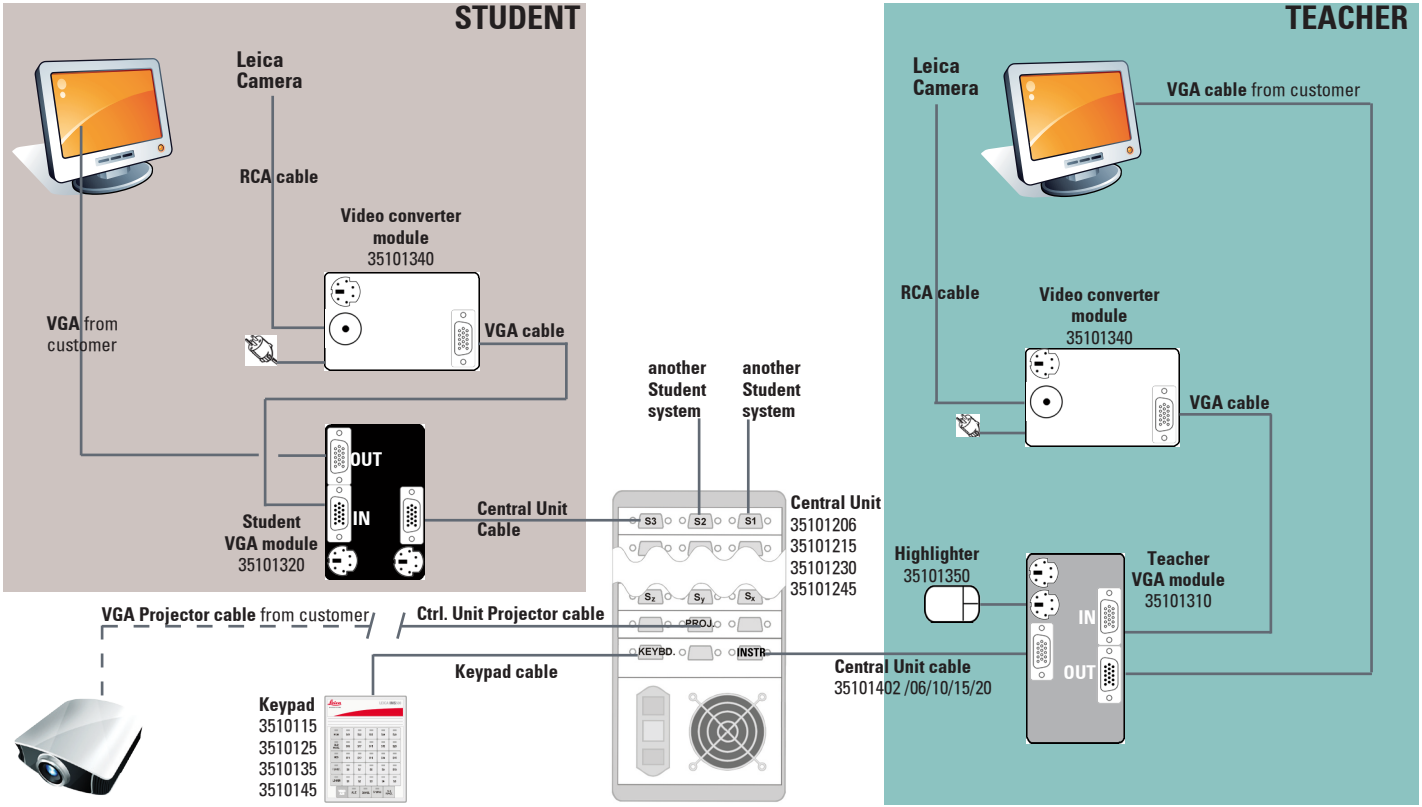
Installation Advanced Systems with Computers and remote control USB



Installation Advanced Systems with Computers and remote control PS/2



Installation Basic System without Computers



Quick Start!

General information

The instructor's and the student's keys may have a choice of 3 functions: Off, transmit and receive.

The first key selected after VIDEO OFF becomes the transmitter. The next keys selected become the receivers.

Hit a receiver's key again to deselect it.

The transmitter is indicated by flashing light, receivers by permanent light.

To select a new transmitter, hold the key pressed down for about 1 second or reset the system (VIDEO OFF) and start a new input sequence.

Keypad functions for Basic System

Clear & Reset the system

The system is cleared and all selections are turned off. A new input sequence can be entered by selecting a key (e.g. instructor or any student) who becomes the transmitter. Then select the keys of the receivers of this screen image, e.g. student 1.

Instructor to all students

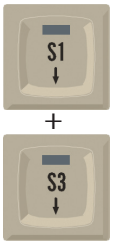
All students receive the instructor's screen image. The instructor's screen is automatically set as transmitter (if there is no other transmitter selected).

Instructor to selected students

Press INSTR. + S1 to select the instructor as transmitter. Student 1 will receive the instructor's screen image. Other students may also be added to this selection as receivers by pressing INSTR. + Sx

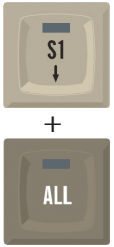
View students work

Student 1 is selected as transmitter and the instructor is automatically set as receiver. If there was still any transmitter selected when pressing S1, student 1 will be selected as receiver.



Student to Student

Student 1 is selected as transmitter, other Students can be set a a reveiver.



Student 1 to all students

Press S1 + ALL to select Student 1 as transmitter, and the instructor and all other students will receive his screen image.

Projector

Activation of the projector. The current transmitter is displayed onto the projector screen.

Blank all screens

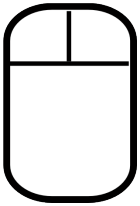
All screens are blanked when BLANK and ALL are pressed. The instructor remains the transmitter and his screen is active and can still be displayed onto the projector screen. To blank single screen press BLANK and select student(s) key to blank the screens.

Blank single students screen

To blank single screen press BLANK and select student(s) key to blank the screens.

Video Scanner of students` screens

Hold down the ALT key while pressing the ALL key. The instructor receives all students` screens sequentially for about 3 seconds. To increase the time delay hold the ALT key pressed down.



Highlighter for the Instructor Image

The right button turns the highlighter on and off. By pressing the left button and moving the mouse shape and size of the highlighter changes. The four optional colours can be selected by clicking the right button while the left button is pressed down. The highlighter moves on the screen by simply moving the mouse. All functions are maintained when the highlighter is turned off.

The 6 pin mini socket for the mouse is located inbetween the 8 pin remote control socket and the 25 pin sub-D socket on the instructors video box.

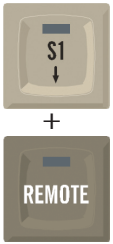
Wireless Remote Control

- Instructor's screen to all students
- Blanking of all students screens
- Video Off (Reset)
- Other buttons for future developements

Additional Keypad functions for Advanced Systems with remote control (USB or PS/2)

Lock all keyboards and mice

Hold down the ALT FUNCT key while pressing the KEYB LOCK key to lock all student´s keyboards and mice. No video transmission is required



Remote control of student 1 computer

To control students´ 1 keyboard and mouse. A students´screen must first be transmitted to the instructor.

Remote control of all student computers (PS/2 system only)

To control all student´s keyboards and mouses hold down the ALT FUNCT key while pressing the REMOTE key.

Specifications					
Keypad	Type KP15	Type KP25	Type KP35	Type KP45	
Dimensions* (W-H-D)	12.5 x 4 x 17cm	15 x 4 x 21 cm	19.5 x 4.5 x 22 cm	23 x 4.5 x 23 cm	
Weight	ca. 400 g	ca. 550 g	ca. 700 g	ca. 800 g	
Power	5VDC and 10VDC supplied by Central Unit				
Communication	Serial 4Wire RS-232 Protocol		* Dimensions of keyboard only (no cables/plugs).		
Central Unit	CU15	CU30	CU45		
Dimensions* (W-H-D)	24 x 15 x 28 cm	34 x 15 x 28 cm	45 x 15 x 28 cm		* Dimensions of rack only (no cables/plugs
Weight	max. 5 kg	max. 7.5 kg	max. 10 kg		
Power Consumption	max. 100 W	max. 200 W	max. 300 W		
Modules	Imaging Module		Computer Control Module		
Dimensions* (W-H-D)	11.5 x 3.2 x 9 cm (no cables connected)				* Dimensions of box only (no cables/plugs).
Weight	175 g		125 g		
Power	+10VDC and -10VDC		5VDC supplied by computer		
	supplied by Central Unit				
Cables	Central Unit Cable (prefab-ricated)		VGA-Cable (prefabricated)		
Length	2 m …..30 m		1 m (1.8 m available)		
Weight	120 g (plugs) + 110g/m		200 g		
Connectors	Sub-D25M, Sub-HD15M		Sub-HD15M Sum-HD15F		